



PARK AVENUE RELOCATION

SOCIOECONOMIC, COMMUNITY FACILITIES, AND
LAND USE TECHNICAL REPORT

FEBRUARY 2018

PARK AVENUE RELOCATION

Socioeconomics, Community Facilities, and Land Use Technical Report

Delaware Department of Transportation (DelDOT)

Town of Georgetown in Sussex County, Delaware

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List of Acronyms

| | |
|--------|---------------------------------------|
| ACS | American Community Survey |
| CEQ | Council of Environmental Quality |
| DeIDOL | Delaware Department of Labor |
| DeIDOT | Delaware Department of Transportation |
| DPC | Delaware Population Consortium |
| EA | Environmental Assessment |
| EJ | Environmental Justice |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| FAA | Federal Aviation Administration |
| FHWA | Federal Highway Administration |
| FY | Fiscal Year |
| HHS | Health and Human Services |
| NEPA | National Environmental Policy Act |
| ROFA | Runway Object Free Area |
| RPZ | Runway Protection Zone |
| USDOT | U.S. Department of Transportation |

1.0 Introduction

The Delaware Department of Transportation (DelDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating the relocation and upgrade of Park Avenue in the southern portion of the Georgetown area in Sussex County, Delaware. Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended, and in accordance with FHWA regulations, an Environmental Assessment (EA) has been prepared to analyze and document the potential social, economic, and environmental effects associated with the proposed transportation improvements.

The purpose of this Technical Report is to identify and assess the impact to socioeconomic resources, community facilities, and land use within the socioeconomic resources study area. Information in this report, described below, supports discussions presented in the EA.

- **Section 1** provides an overview of the study area and Purpose and Need of the project;
- **Section 2** describes the demographics and neighborhoods within the study area;
- **Section 3** describes the Environmental Justice populations within the study area and the potential for impacts;
- **Section 4** describes the community facilities within the study area and the potential for impacts;
- **Section 5** describes the existing and future land use within the study area and the potential for impacts.

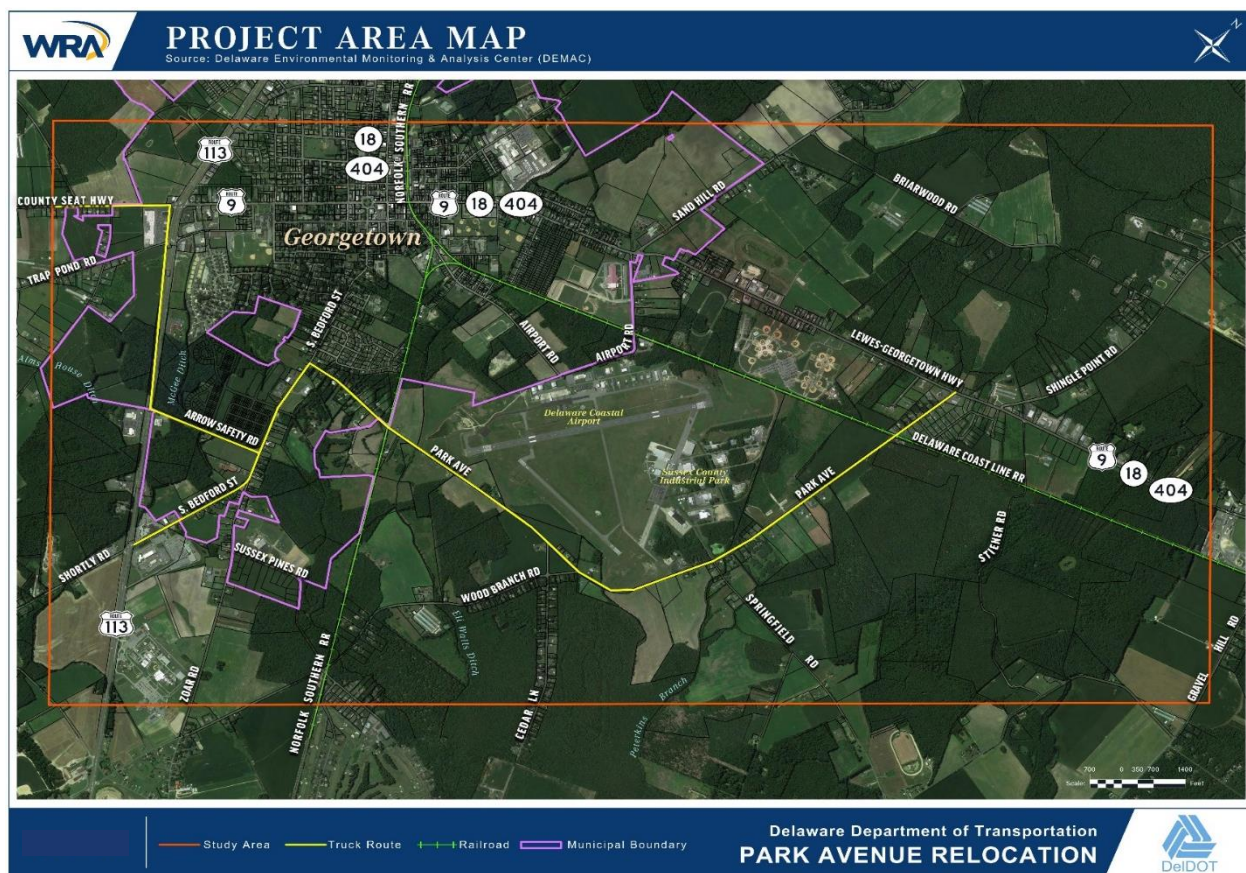
1.1 Description of the Study Area

The project's study area extends from one-half-mile east of Park Avenue to one-quarter-mile west of US 113, and includes the majority of the Town of Georgetown, the Delaware Coastal Airport, and the Sussex County Industrial Park (refer to **Figure 1-1**). The study area was developed based upon review of the land use in the area. The area in the vicinity and to the south of Park Avenue, South Bedford Street, and Arrow Safety Road is predominantly industrial or is planned to be industrial with pockets of residences, farmland, wetlands, and forested areas, as well as a new residential development planned north of Arrow Safety Road. The roadways further south of Park Avenue and South Bedford Street, such as Wood Branch Road, support low density residential development. Residential mixed with commercial uses border US 9 and DuPont Boulevard (US 113); while the majority of the vacant developable land between these roadways is designated for future residential development (Sussex County, 2008).

1.2 Background

Park Avenue, also known as US Route 9 Truck Bypass, is the designated truck route for tractor trailers moving through the area, providing access to the Sussex County Industrial Park, southeast of the Delaware Coastal Airport. Sussex County's 2017-2022 Capital Transportation Program Request has identified Park Avenue as a priority for improvement (Sussex County, 2015). DelDOT's Capital Transportation Plan for fiscal year (FY) 2017-2022, the currently approved plan, authorizes funding for preliminary engineering and right-of-way for the project (DelDOT, 2017). The report and plan note that the roads used for the truck bypass should be upgraded, with appropriate turn lanes and signalized intersections, and that the truck route should be realigned, removing the truck route from the existing residential areas of Park Avenue and South Bedford Street (Sussex County, 2015 and DelDOT, 2017).

Figure 1-1: Project Area Map



1.3 Existing Conditions

US 9 travels through the Town of Georgetown connecting Laurel, Delaware with Lewes, Delaware. West of US 113, US 9 is known as County Seat Highway; east of US 113, US 9 is known as Lewes-Georgetown Highway (refer to **Figure 1-1**). To eliminate truck traffic through the center of Georgetown, DelDOT designated a truck bypass which begins at County Seat Highway (US 9) west of Georgetown, then follows US 113, Road 87 (Arrow Safety Road), Road 431 (South Bedford Street), and Park Avenue, and reconnects with Lewes-Georgetown Highway (US 9) east of Georgetown. The five-mile bypass requires that trucks turn at five intersections and cross two railroads at-grade, the Norfolk Southern Line east of South Bedford Street on Park Avenue and the Delaware Coast Line south of Lewes-Georgetown Highway (US 9) on Park Avenue. The bypass is the only access route to the Sussex County Industrial Park and is a main route to the Delaware Coastal Airport (formerly the Sussex County Airport).

1.4 Purpose and Need

The purpose of the Park Avenue relocation, being undertaken by DelDOT, is to improve the traffic operations and safety of the US 9 truck bypass from east of Georgetown to US 113.

The primary need for the Park Avenue project is to improve traffic operations and safety. The existing truck route between US 9 and US 113 has several turning movements that hinder traffic operations, the roadway width is narrow and does not meet current design for a truck route, and the average number of crashes along the truck route between US 113 and US 9 is higher than the state and Sussex County averages.

Secondary needs are to support economic growth and to support federal, state, and local initiatives by focusing on improving transportation infrastructure to provide safe and convenient road access across the region and to areas zoned for business/industrial use.

1.5 Alternatives Considered for Evaluation

Conceptual alternatives that could potentially address the Purpose and Need for study were developed and then screened and compared by DelDOT during the conceptual design phase based on criteria developed to determine whether or not the identified elements of Purpose and Need would be met. The alternatives evaluated as well as the screening criteria are described in **Chapter 2.0** of the EA. Following is a description of the two alternatives carried forward for evaluation.

1.5.1 No-Build Alternative

Under the No-Build Alternative, no improvements to or relocation of Park Avenue would be undertaken; however, routine maintenance of the US 9 truck route would continue. The No-Build Alternative would not satisfy the identified needs of the project as it would not improve traffic operations and safety along Park Avenue. The No-Build Alternative is also inconsistent with local plans and would not accommodate growth at the Delaware Coastal Airport (Town of Georgetown, 2010; Sussex County, 2008, 2015, and 2016). The No-Build Alternative has been carried forward in this EA as a benchmark for assessing the transportation benefits and environmental impacts of Build Alternative 6, the Preferred Alternative.

1.5.2 Preferred Alternative

The Preferred Alternative would begin at Arrow Safety Road and straighten the alignment of the truck bypass by creating an additional leg at the intersection with South Bedford Street. The alternative would then travel along a new alignment to connect to Park Avenue east of the Norfolk Southern Railroad tracks. This alternative would avoid the runway object free area (ROFA) as well as the central portion of the runway protection zone (RPZ) associated with the proposed growth of the Delaware Coastal Airport, and minimize wetland impacts.

This truck route relocation would improve traffic operations by improving the roadway alignment and typical section, providing a continuous route around Georgetown, connecting US 113 west of Georgetown to US 9 east of Georgetown, and improving the Park Avenue and US 9 intersection and the Park Avenue and South Bedford Street/Arrow Safety Road intersection. The Preferred Alternative is consistent with local plans and allows for the future growth of the Delaware Coastal Airport as proposed by Sussex County, thus potentially encouraging economic development in the region (Town of Georgetown, 2010; Sussex County, 2008, 2015, and 2016).

2.0 Demographics and Neighborhoods

2.1 Methodology

The following demographic profile was created using data obtained from the US Census Bureau's (Census) Decennial Censuses and American Community Surveys (ACS). Census collects and reports data for jurisdictions, as well as for several geographical units that are subsets of the jurisdiction (i.e. Census tract, block group, and block).

Population projection data was obtained from the Delaware Population Consortium (DPC), where yearly population projections are made for the State, Counties, and selected municipalities. Neighborhoods, Delaware Downtown Development Districts, and industrial parks were identified from desktop searches and GIS data provided by the *Delaware FirstMap GIS*. Economic information for Sussex County, Delaware, the Town of Georgetown, and the study area region were obtained from local comprehensive plans, the Sussex County Economic Development Office, and the Delaware Department of Labor data.

2.2 Existing Conditions

2.2.1 Population

For the purposes of this report, study area demographics were calculated using demographic information for each of the nine block groups fully or partially within the study area boundaries, as identified in **Figure 2-1**. **Table 2-1** provides population data for the block groups compared with data for the Town of Georgetown, Sussex County, and the State of Delaware.

Persons under the age of 18 comprise the largest part of the study area population (22 percent) (Census, 2015d). People between the ages 25 to 34 are the second most represented group, at 17 percent, closely followed by 65 and over (15 percent). The distribution of ages for the study area is similar to the overall distribution for the State of Delaware and Sussex County, except for the County's percentage of 65 and over (23 percent). Similarly, for the Town of Georgetown, persons under the age of 18 have the highest percentage (27 percent), followed by 25 to 34 (21 percent) and 65 and over (12 percent).

Sussex County and the State of Delaware have consistently grown since the 1970s, although Sussex County's growth has far exceeded Delaware's growth (158% increase compared with a 69% increase over the 45-year period, respectively) (refer to **Table 2-2**). While population is anticipated to increase over the next 25 years, the future rate of population increase is anticipated to be much slower than historically (25% increase for Sussex County and 15% increase for Delaware) (refer to **Table 2-3**).

Table 2-1: Demographic Profile

| Characteristics | | Census Tract 505.01 | | Census Tract 505.03 | | Census Tract 505.04 | | | Census Tract 508.02 | | Study Area Total | Town of Georgetown | Sussex County | State of Delaware |
|------------------|-------------|---------------------|------------------|---------------------|----------------|---------------------|------------------|------------------|---------------------|------------------|-------------------|--------------------|--------------------|--------------------|
| | | Block Group 1 | Block Group 2 | Block Group 1 | Block Group 2 | Block Group 1 | Block Group 2 | Block Group 3 | Block Group 1 | Block Group 2 | | | | |
| Total Population | | 1,217 | 2,491 | 4,132 | 1,623 | 2,095 | 2,067 | 2,029 | 1,628 | 3,043 | 20,325 | 6,775 | 207,302 | 926,454 |
| Gender | Male | 485 (39.9%) | 1,110 (44.6%) | 2,348 (56.8%) | 817 (50.3%) | 1,674 (79.9%) | 1,059 (51.2%) | 892 (44.0%) | 750 (46.1%) | 1,573 (51.7%) | 10,708 (52.7%) | 3,599 (53.1%) | 100,782 (48.6%) | 448,413 (48.4%) |
| | Female | 732 (60.1%) | 1,381 (55.4%) | 1,784 (43.2%) | 806 (49.7%) | 421 (20.1%) | 1,008 (48.8%) | 1,137 (56.0%) | 878 (53.9%) | 1,470 (48.3%) | 9,617 (47.3%) | 3,176 (46.9%) | 106,520 (51.4%) | 478,041 (51.6%) |
| Age | Under 18 | 216 (17.7%) | 433 (17.4%) | 1193 (28.9%) | 330 (20.3%) | 118 (5.6%) | 683 (33.0%) | 614 (30.3%) | 213 (13.1%) | 648 (21.3%) | 4,448 (21.9%) | 1,827 (27.0%) | 40,977 (19.8%) | 204,154 (22.0%) |
| | 18-24 | 93 (7.6%) | 372 (14.9%) | 484 (11.7%) | 128 (7.9%) | 280 (13.4%) | 105 (5.1%) | 74 (3.6%) | 39 (2.4%) | 188 (6.2%) | 1,763 (8.7%) | 677 (10.0%) | 14,776 (7.1%) | 91,182 (9.8%) |
| | 25-34 | 144 (11.8%) | 279 (11.2%) | 871 (21.1%) | 330 (20.3%) | 456 (21.8%) | 465 (22.5%) | 251 (12.4%) | 239 (14.7%) | 409 (13.4%) | 3,444 (16.9%) | 1,393 (20.6%) | 21,680 (10.5%) | 120,112 (13.0%) |
| | 35-44 | 137 (11.3%) | 331 (13.3%) | 575 (13.9%) | 225 (13.9%) | 357 (17.0%) | 369 (17.9%) | 151 (7.4%) | 115 (7.1%) | 359 (11.8%) | 2,619 (12.9%) | 946 (14.0%) | 21,384 (10.3%) | 111,429 (12.0%) |
| | 45-54 | 95 (7.8%) | 479 (19.2%) | 435 (10.5%) | 162 (10.0%) | 358 (17.1%) | 50 (2.4%) | 302 (14.9%) | 137 (8.4%) | 382 (12.6%) | 2,400 (11.8%) | 561 (8.3%) | 27,744 (13.4%) | 131,002 (14.1%) |
| | 55-59 | 200 (16.4%) | 165 (6.6%) | 188 (4.5%) | 63 (3.9%) | 120 (5.7%) | 101 (4.9%) | 117 (5.8%) | 236 (14.5%) | 260 (8.5%) | 1,450 (7.1%) | 324 (4.8%) | 15,667 (7.6%) | 63,425 (6.8%) |
| | 60-64 | 78 (6.4%) | 89 (3.6%) | 186 (4.5%) | 94 (5.8%) | 126 (6.0%) | 70 (3.4%) | 166 (8.2%) | 186 (11.4%) | 243 (8.0%) | 1,238 (6.1%) | 257 (3.8%) | 16,763 (8.1%) | 57,942 (6.3%) |
| | 65 and over | 254 (20.9%) | 343 (13.8%) | 200 (4.8%) | 291 (17.9%) | 280 (13.4%) | 224 (10.8%) | 354 (17.4%) | 463 (28.4%) | 554 (18.2%) | 2,963 (14.6%) | 790 (11.7%) | 48,311 (23.3%) | 147,208 (15.9%) |

Source: 2011-2015 ACS 5-Year Estimates: Total Population.

Figure 2-1: Census Block Groups fully or partially within the Study Area

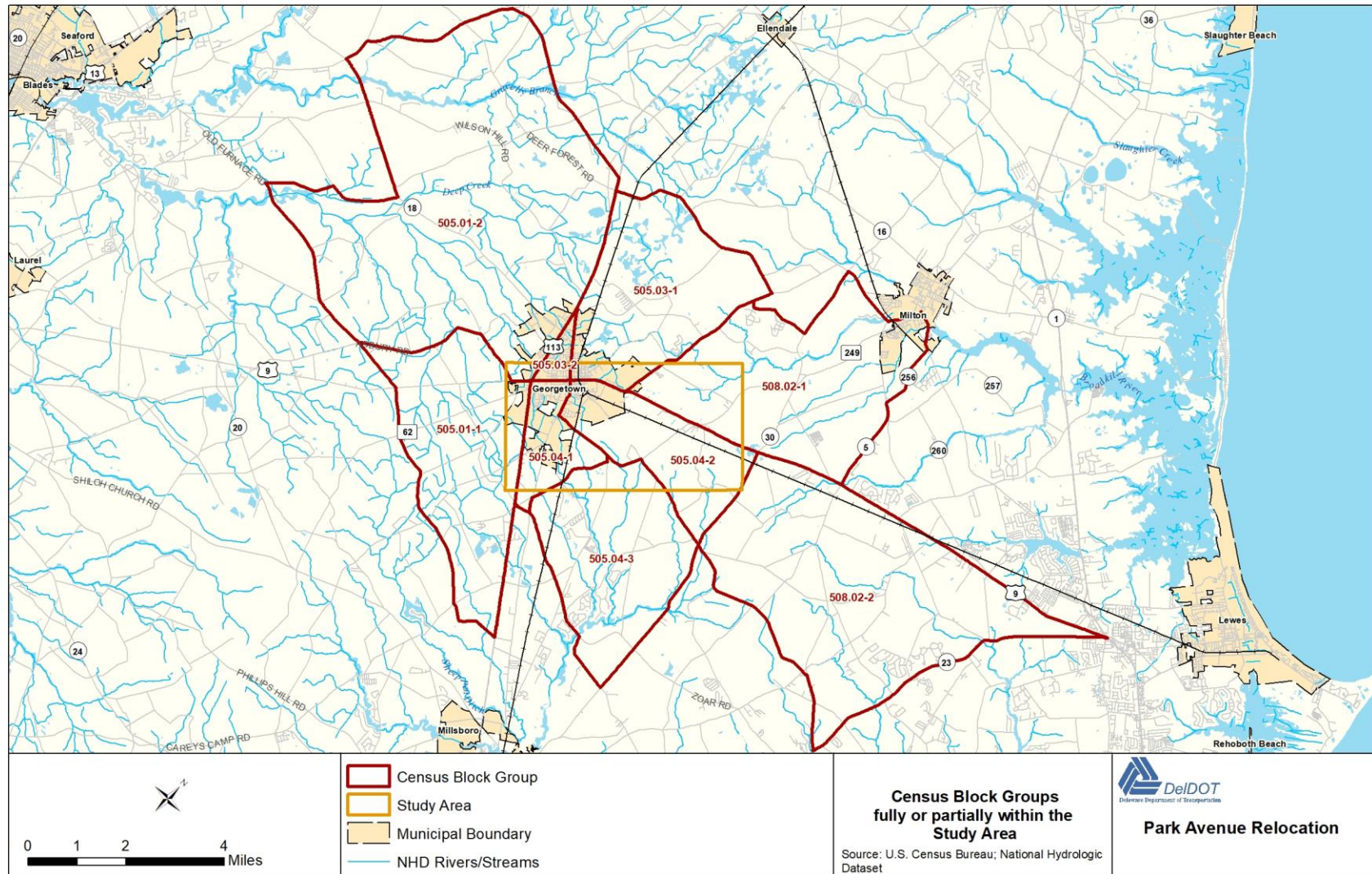


Table 2-2: Historic Population Change

| Locality | 1970 | 1980 | 1990 | 2000 | 2015 | 2015 - 1970 Change | Total % Change |
|---------------|---------|---------|---------|---------|---------|--------------------|----------------|
| Sussex County | 80,356 | 98,004 | 113,229 | 156,638 | 207,302 | 126,946 | 158% |
| Delaware | 548,104 | 666,168 | 666,168 | 783,600 | 926,454 | 378,350 | 69% |

Source: US Census Data, Population of Counties by Decennial Census: 1900-1990, and ACS 5-Year Estimates 2011-2015: Total Population.

Table 2-3: Projected Population Change

| Locality | 2015 | 2040 Population Projection | 2015 - 2040 Population Change | 2015 - 2040 Percent Change |
|---------------|---------|----------------------------|-------------------------------|----------------------------|
| Sussex County | 207,302 | 258,760 | 51,458 | 24.8% |
| Delaware | 926,454 | 1,065,168 | 138,714 | 15.0% |

Source: DPC, 2016.

Table 2-4 provides the total number of housing units within the study area, the Town of Georgetown, Sussex County, and the State of Delaware, as well as the number of occupied units. All geographic areas have a percentage of occupied housing units over 80 percent, other than Sussex County, with 64 percent. The study area has 7,437 total housing units and of those 6,617 housing units are occupied. Comparatively, the Town of Georgetown has 2,164 total housing units and of those 1,951 housing units are occupied.

Table 2-4: Housing Units and Occupancy Rates

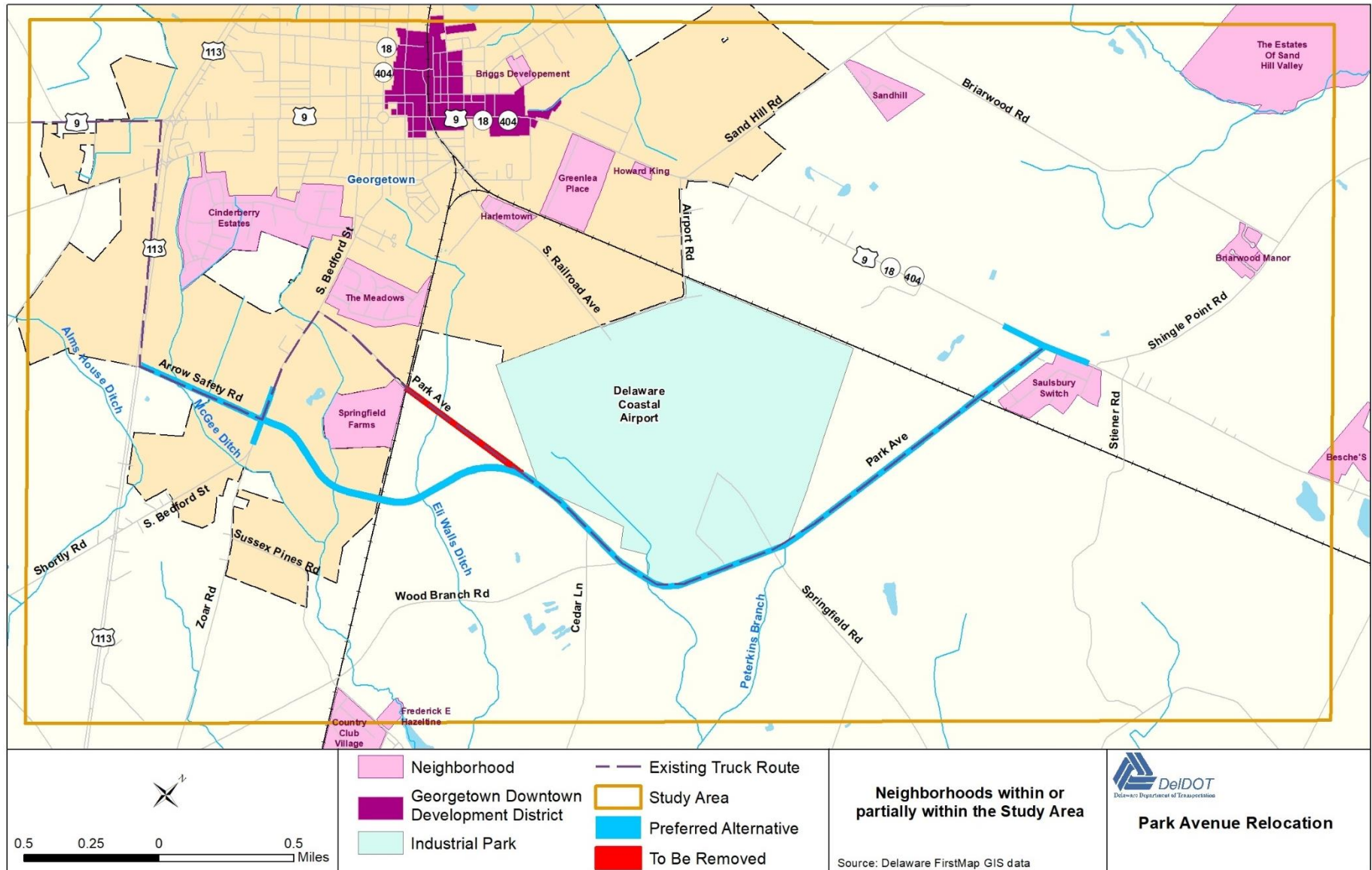
| Census Tract / Geographic Area | | Total Housing Units | Occupied Housing Units | % Occupied Housing Units |
|--------------------------------|---------------|---------------------|------------------------|--------------------------|
| 505.01 | Block Group 1 | 535 | 502 | 94% |
| | Block Group 2 | 1,040 | 915 | 88% |
| 505.03 | Block Group 1 | 1,079 | 1,015 | 94% |
| | Block Group 2 | 521 | 474 | 91% |
| 505.04 | Block Group 1 | 397 | 368 | 93% |
| | Block Group 2 | 736 | 647 | 88% |
| | Block Group 3 | 734 | 685 | 93% |
| 508.02 | Block Group 1 | 878 | 746 | 85% |
| | Block Group 2 | 1,517 | 1,265 | 83% |
| Study Area | | 7,437 | 6,617 | 89% |
| Town of Georgetown | | 2,164 | 1,951 | 90% |
| Sussex County | | 127,680 | 81,183 | 64% |
| State of Delaware | | 414,416 | 344,022 | 83% |

Source: US Census Bureau 2011-2015 ACS 5-Year Estimates: Occupancy Status, Housing Units.

2.2.2 Neighborhoods

Fourteen neighborhoods are interspersed throughout the study area, including the Georgetown Downtown Development District, as shown on **Figure 2-2**. The Town of Georgetown is easily accessible by major roadways and is the central location of Sussex County's legislative and judicial activity, as well as a large industrial park associated with Delaware Coastal Airport.

Figure 2-2: Neighborhoods within or partially within the Study Area



2.2.3 Employment

According to the Delaware Department of Labor (DeIDOL) Occupation and Industry Projections for Sussex County, the total employment across all industries within the county is expected to grow by an estimated 11 percent from 2014 to 2024 (DeIDOL, 2017c). Two industries are projected to decrease between 2014 and 2024: Agriculture, Fishing, and Forestry (4 percent), and Management of Companies and Enterprises (29 percent). All Sussex County industries' projected growth from 2014 and 2024 are displayed in **Table 2-5**.

Table 2-5: Sussex County, Delaware - Industry Projections 2024

| Industry | Estimated Employment (2014) | Projected Employment (2024) | Percent Change |
|--|-----------------------------|-----------------------------|----------------|
| Total Employment, All Jobs | 81,750 | 90,810 | 11% |
| Total Self-Employed and Unpaid Family Workers, Primary Job | 6,530 | 7,370 | 13% |
| Agriculture, Fishing, and Forestry | 2,970 | 2,850 | -4% |
| Utilities | 350 | 360 | 3% |
| Construction | 4,120 | 5,040 | 22% |
| Manufacturing | 9,700 | 9,870 | 2% |
| Wholesale Trade | 650 | 730 | 12% |
| Retail Trade | 11,860 | 12,920 | 9% |
| Transportation and Warehousing | 1,730 | 1,900 | 10% |
| Information | 480 | 500 | 4% |
| Finance and Insurance | 1,650 | 1,950 | 18% |
| Real Estate, and Rental and Leasing | 1,370 | 1,430 | 4% |
| Professional and Technical Services | 1,800 | 1,990 | 11% |
| Management of Companies and Enterprises | 170 | 120 | -29% |
| Administrative and Waste Services | 3,370 | 3,810 | 13% |
| Educational Services | 5,480 | 5,930 | 8% |
| Health Care and Social Assistance | 10,340 | 12,720 | 23% |
| Arts, Entertainment, and Recreation | 1,240 | 1,410 | 14% |
| Accommodation and Food Services | 10,570 | 11,880 | 12% |
| Other Services, except Public Administration | 4,330 | 4,730 | 9% |
| Government | 2,120 | 2,290 | 8% |

Source: DeIDOL, 2017c.

According to the Delaware Office of Occupational and Labor Market Information Local Area Unemployment Statistics, there were 103,399 persons employed out of a labor force of 108,050 in Sussex County in July 2017. The unemployment rate was at 4.3 percent which was slightly lower than Delaware's rate of 5.1 percent (not seasonally adjusted) in July 2017 (DeIDOL, 2017a). The most prevalent industries in Sussex County, as reported by the Delaware Office of Occupational and Labor Market Information, include:

1. Education and Health Services (17.2 percent)
2. Total Government (13.4 percent)
3. Retail Trade (11.7 percent)
4. Accommodation and Food Services (10 percent)

5. Finance and Insurance (9.2 percent).

The largest employers, as of 2017, identified in the Sussex County Economic Development Office publication include:

- *Manufacturing:* Dogfish Head Brewery, Invista, Merck Animal Health, NRG Energy, and ALOFT AeroArchitects (formerly PATS Aircraft Systems).
- *Agriculture:* Allen Harim Foods, LLC, Mountaire Farms, Perdue, Inc., and Sea Watch International.
- *Healthcare:* Bayhealth Medical Center, Beebe Medical Center, La Red Health Center, Nanticoke Health Services, and Peninsula Regional Medical Center (Sussex County Economic Development, 2017).

Additionally, the Delaware Coastal Airport is one of the key economic engines in Sussex County. The airport and the associated Sussex County Industrial Park are situated on 350 acres within the study area. The industrial park complex contains multiple businesses and employs over a thousand people (Sussex County, 2015). Aviation demands for non-military revenue and non-revenue charter operations as well as business jet operations are anticipated to increase from 47,124 in the year 2002 to approximately 57,255 in the year 2021 (FAA, 2011). These anticipated business jet operation increases will create the need for additional hangars, which will lead to increased traffic, jobs, and general economic development to the area (FAA, 2011). As the first step in a multi-phase, \$25 million plan to modernize the airport to accommodate faster and heavier aircraft than those currently utilizing it, the Delaware Coastal Airport completed a 500-foot extension of Runway 4-22 to 5,500 feet (Sussex County, 2015).

2.2.4 Income

Table 2-6 identifies the average median household income of all Census block groups within the study area. US Census 2011-2015 ACS 5-Year Median Household Income Estimates data were compared to the Town of Georgetown, Sussex County, and the State of Delaware as a whole.

Table 2-6: Median Household Income by Census Tract in 2015 Inflation Adjusted Dollars

| Census Tract | Median Household Income |
|-------------------------|-------------------------|
| Study Area ¹ | \$52,785 |
| Town of Georgetown | \$47,525 |
| Sussex County | \$53,505 |
| Delaware | \$60,231 |

¹ Averaged across block groups within Study Area.

Source: US Census Bureau 2011 - 2015 ACS 5-Year Average: Median Household Income.

Municipal governments are financed through real property tax receipts. Real estate in incorporated areas are subject to municipal property taxes, county property taxes, school district property taxes, and vocational school property taxes. Sussex County property taxes are set at \$0.3983 per \$100 assessed property value, this rate has held constant since the last assessment in 1974 (Delaware Economic Development Office, 2014).

2.3 Future Conditions

2.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impacts on population, neighborhoods, employment, income, or housing. However, this alternative would not support economic growth and development goals as identified in the *Town of Georgetown Comprehensive Plan* (Town of Georgetown, 2010).

2.3.2 Preferred Alternative

Employment growth, local employment opportunities, and support to existing local businesses associated with the Preferred Alternative would be both temporary, associated with roadway construction, and permanent, associated with the potential for growth at the airport and the surrounding area. Improvements to Park Avenue are included within the *Town of Georgetown Comprehensive Plan* as means to achieve the Town of Georgetown's economic growth and development goals (Town of Georgetown, 2010). Additionally, no displacements are anticipated; therefore, no impacts to housing are anticipated. The Meadows and Springfield Farms neighborhoods would be benefitted by the Preferred Alternative because the Preferred Alternative would move the truck route away from the residential area located in the vicinity of the Park Avenue / South Bedford Street intersection.

3.0 Environmental Justice

3.1 Methodology

This project has been evaluated in accordance with Title VI of the Civil Rights Act of 1964, as amended which requires that no person in the United States shall on the ground of race, color, or national origin, be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. In addition, Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations*, and the US Department of Transportation (USDOT) Order 5610.2(a) direct Federal agencies to identify and address disproportionately high and adverse human health or environmental effects that their programs, policies and activities may have on minority and low-income populations to the greatest extent practicable. The goal of this order is to avoid the disproportionate placement of adverse environmental economic, social, or health impacts from federal actions and policies on minority and low-income population that might be affected by the implementation of a proposed action. Incorporating Environmental Justice principles throughout the transportation planning and decision-making process allows for an increased awareness of the effects and impacts of transportation decisions on the human environment.

As guided by FHWA Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority and Low-Income Populations*, proactive efforts should be taken to ensure meaningful opportunities for public participation by all interested parties, including low-income and minority populations (FHWA, 2012).

3.1.1 Minority Populations

According to FHWA Order 6640.23A, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and for the purposes of this Technical Report, minority populations are comprised of members of the following population groups (FHWA, 2012).

- Black or African American: a person having origins in any of the black racial groups of Africa;
- Hispanic or Latino: a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture of origin, regardless of race;

- Asian American: a person having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent;
- American Indian or Alaskan Native: a person having origins in any of the original people of North American, South American (including Central America), and who maintains cultural identification through tribal affiliation or community recognition or;
- Native Hawaiian or Other Pacific Islander: a person having origins in any of the original peoples of Hawaii, Guam, Samoa or other Pacific Islands.

Furthermore, FHWA 6640.23A provides the following definition of a minority population:

- Minority Population: any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient person (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy, or activity (FHWA, 2012a).

As guided by the Council on Environmental Quality's (CEQ) *Guidance Under the National Environmental Policy Act*, and in accordance with the terms of EO 12898, a minority population will be found to exist where either (a) the minority population of the affected area exceeds 50 percent of total population or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographical analysis. As described below, no minority population within the study area exceeds 50 percent of the total population; therefore, this analysis must focus on identifying any minority populations that are meaningfully greater than the general population. The CEQ guidance does not define the specific percentage that should be used for determining if the minority or low-income population is "meaningfully greater" than the average in the surrounding area. However, it is consistent with the CEQ guidance to set a threshold that is higher than (not equal to) the average of the minority population in the surrounding jurisdictions (CEQ, 1997). For the purposes of this Technical Report and the associated EA, a Census block group was determined to have a "meaningfully greater" minority population or Hispanic/Latino population if the percentage of minority or Hispanic/Latino persons within the Census block group was 10 percentage points or more than the average percentage of minority or Hispanic/Latino persons within the study area. The study area average percentage of minority persons is 16.2 percent. Ten percentage points more than this average creates a "meaningfully greater" minority threshold of 26.2 percent. Using the same calculations, the threshold would be 35.8 percent (25.8 percent plus 10 percent) for Hispanic/Latino populations.

To perform an environmental justice analysis, Census data was collected on the racial and ethnic composition for each of the nine block groups fully or partially within the study area. Specifically, Census Bureau 2011-2015 ACS 5-Year Estimates, *Race Alone or in Combination and Hispanic or Latino*, was used for the purposes of identifying minority populations within the study area. The ACS 5-year estimates were utilized due to their ability to provide the most reliable, largest sample size available, and their ability to perform best in analyzing smaller populations.

3.1.2 Low-Income Populations

In accordance with the terms of FHWA 6640.23A and USDOT Order 5610.2(a), low-income persons include any persons whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines (FHWA, 2012b). Published in the Federal Register on January 22, 2015, **Table 3-1** identifies the 2015 HHS poverty guidelines. To be conservative a Census block group was identified as being low-income population when the median household income for the area was below the HHS poverty threshold for a family of four, which was \$24,250 in 2015.

Table 3-1: 2015 Poverty Guidelines for the 48 Contiguous States and the District of Columbia

| Persons in family/household | Poverty Guideline |
|-----------------------------|-------------------|
| 1 | \$11,770 |
| 2 | \$15,930 |
| 3 | \$20,090 |
| 4 | \$24,250 |
| 5 | \$28,410 |
| 6 | \$32,570 |
| 7 | \$36,730 |
| 8 | \$40,890 |

Source: US Department of Health and Human Services 2015 Poverty Guidelines.

Furthermore, FHWA Order 6640.23 defines low-income populations as follows:

- **Low-Income Population:** any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy, or activity (FHWA, 2012a).

The 2011-2015 ACS 5-Year Estimates, Median Income in the Past 12 Months (in 2015 Inflation-Adjusted Dollars) was used to generate median household income data for Census block groups within the study area.

3.2 Existing Conditions

3.2.1 Minority Populations

Table 3-2 identifies the racial and ethnic composition for the nine block groups fully or partially within the study area, as well as the Town of Georgetown, Sussex County, and the State of Delaware as a whole, to serve as a measure of comparison.

As noted above, the threshold for a “meaningfully greater” minority population is 26.2 percent and threshold for a “meaningfully greater” Hispanic/Latino population is 35.8 percent. Of the nine Census block groups partially or fully within the study area, three Census block groups were determined to be Environmental Justice (EJ) communities; one had a “meaningfully greater” minority population (Census Tract 505.04, block group 1) and three had “meaningfully greater” Hispanic/Latino populations (Census Tract 505.03, block groups 1 and 2 and Census Tract 505.04, block group 2) (refer to highlighted Census block groups in **Table 3-2** and **Figure 3-1**). The EJ Census block groups within the study area constitute 49 percent or 9,917 individuals of the total 20,325 population and are spread throughout the study area.

Table 3-2: Study Area Racial and Ethnic Characteristics by Locality

| Locality | Total Population | White ¹ | | Black or African American ¹ | | American Indian and Alaska Native ¹ | | Asian ¹ | | Native Hawaiian and Other Pacific Islander ¹ | | Some Other Race ¹ | | Two or More Races ¹ | | Total Block Group Minority Population | | Hispanic or Latino-White ² | | Hispanic or Latino – Other Races ² | | Total Block Group Hispanic / Latino Population ³ | |
|------------------|------------------|--------------------|-------|--|-------|--|------|--------------------|------|---|------|------------------------------|------|--------------------------------|------|---------------------------------------|-------|---------------------------------------|-------|---|-------|---|-------|
| | | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % | Number | % |
| 505.01-1 | 1,217 | 794 | 65.2% | 207 | 17.0% | 0 | 0.0% | 67 | 5.5% | 0 | 0.0% | 0 | 0.0% | 40 | 3.3% | 314 | 25.8% | 51 | 4.2% | 58 | 4.8% | 109 | 9.0% |
| 505.01-2 | 2,491 | 1,862 | 74.7% | 267 | 10.7% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 14 | 0.6% | 281 | 11.3% | 122 | 4.9% | 226 | 9.1% | 348 | 14.0% |
| 505.03-1 | 4,132 | 967 | 23.4% | 487 | 11.8% | 0 | 0.0% | 27 | 0.7% | 0 | 0.0% | 0 | 0.0% | 37 | 0.9% | 551 | 13.3% | 1,549 | 37.5% | 1,065 | 25.8% | 2,614 | 63.3% |
| 505.03-2 | 1,623 | 595 | 36.7% | 225 | 13.9% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 7 | 0.4% | 11 | 0.7% | 243 | 15.0% | 644 | 39.7% | 141 | 8.7% | 785 | 48.4% |
| 505.04-1 | 2,095 | 1,385 | 66.1% | 619 | 29.5% | 4 | 0.2% | 4 | 0.2% | 0 | 0.0% | 0 | 0.0% | 8 | 0.4% | 635 | 30.3% | 57 | 2.7% | 18 | 0.9% | 75 | 3.6% |
| 505.04-2 | 2,067 | 874 | 42.3% | 211 | 10.2% | 21 | 1.0% | 0 | 0.0% | 0 | 0.0% | 135 | 6.5% | 59 | 2.9% | 426 | 20.6% | 767 | 37.1% | 0 | 0.0% | 767 | 37.1% |
| 505.04-3 | 2,029 | 1,316 | 64.9% | 283 | 13.9% | 0 | 0.0% | 22 | 1.1% | 0 | 0.0% | 30 | 1.5% | 12 | 0.6% | 347 | 17.1% | 353 | 17.4% | 13 | 0.6% | 366 | 18.0% |
| 508.02-1 | 1,628 | 1,455 | 89.4% | 96 | 5.9% | 0 | 0.0% | 6 | 0.4% | 0 | 0.0% | 0 | 0.0% | 10 | 0.6% | 112 | 6.9% | 44 | 2.7% | 17 | 1.0% | 61 | 3.7% |
| 508.02-2 | 3,043 | 2,532 | 83.2% | 343 | 11.3% | 12 | 0.4% | 6 | 0.2% | 0 | 0.0% | 0 | 0.0% | 23 | 0.8% | 384 | 12.6% | 53 | 1.7% | 74 | 2.4% | 127 | 4.2% |
| Study Area Total | 20,325 | 11,780 | 58.0% | 2,738 | 13.5% | 37 | 0.2% | 132 | 0.6% | 0 | 0.0% | 172 | 0.8% | 214 | 1.1% | 3,293 | 16.2% | 3,640 | 17.9% | 1,612 | 7.9% | 5,252 | 25.8% |
| George-town | 6,775 | 2,507 | 37.0% | 680 | 10.0% | 21 | 0.3% | 27 | 0.4% | 0 | 0.0% | 142 | 2.1% | 107 | 1.6% | 977 | 14.4% | 2,188 | 32.3% | 1,103 | 16.3% | 3,291 | 48.6% |
| Sussex County | 207,302 | 155,138 | 74.8% | 25,749 | 12.4% | 715 | 0.3% | 2,317 | 1.1% | 18 | 0.0% | 529 | 0.3% | 3,794 | 1.8% | 33,122 | 16.0% | 13,712 | 6.6% | 5,330 | 2.6% | 19,042 | 9.2% |
| Delaware | 926,454 | 591,922 | 63.9% | 195,058 | 21.1% | 2,542 | 0.3% | 33,354 | 3.6% | 146 | 0.0% | 2,177 | 0.2% | 20,549 | 2.2% | 253,826 | 27.4% | 50,701 | 5.5% | 30,005 | 3.2% | 80,706 | 8.7% |

Note: Census block groups that are above the threshold for minority or Hispanic/Latino are highlighted in yellow.

1 Regardless of Hispanic/Latino designation

2 The U.S. Census Bureau defines Hispanic or Latino as a person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race. Because Hispanic or Latino may be any race, data may overlap for other race categories and percentages were not calculated.

3 Total minority and/or Hispanic/Latino is the sum of all non-White races plus Hispanic or Latino – White.

Source: US Census Bureau 2010 - 2014 ACS 5-Year Average: Hispanic or Latino Origin by Race.

The average Hispanic or Latino population within the study area is 25.8 percent. The threshold for Hispanic or Latino populations was established as ten percent greater than the study area average (35.8 percent or greater). Three Census block groups meet the threshold for Hispanic/Latino populations greater than the 35.8 percent threshold – Census tract 505.03, block group 1 and 2, and Census tract 505.04, block group 2. Census tract 505.04, block group 2 also has the third highest minority population percentage in the study area. Census block groups that exceed either threshold are highlighted in yellow in **Table 3-2** and are shown on **Figure 3-1**.

3.2.2 Low-Income Populations

Table 3-3 identifies the median income of each block group fully or partially within the study area. As noted above, the threshold for identifying a Census block group as low income is median household income of \$24,250. As indicated, in **Table 3-3**, none of the block groups have a median household income below this threshold. Thus, no low-income populations have been identified within the project study area and no further assessment of impacts to low-income populations is required.

Table 3-3: Median Household Income by Census Tract in 2015 Inflation Adjusted Dollars

| Census Tract | | Median Household Income |
|---------------------|---------------|-------------------------|
| Census Tract 505.01 | Block Group 1 | \$50,833 |
| | Block Group 2 | \$45,313 |
| Census Tract 505.03 | Block Group 1 | \$48,063 |
| | Block Group 2 | \$47,660 |
| Census Tract 505.04 | Block Group 1 | \$59,063 |
| | Block Group 2 | \$34,863 |
| | Block Group 3 | \$64,187 |
| Census Tract 508.02 | Block Group 1 | \$63,690 |
| | Block Group 2 | \$61,389 |
| State of Delaware | | \$60,231 |
| Sussex County | | \$53,505 |
| Town of Georgetown | | \$47,525 |

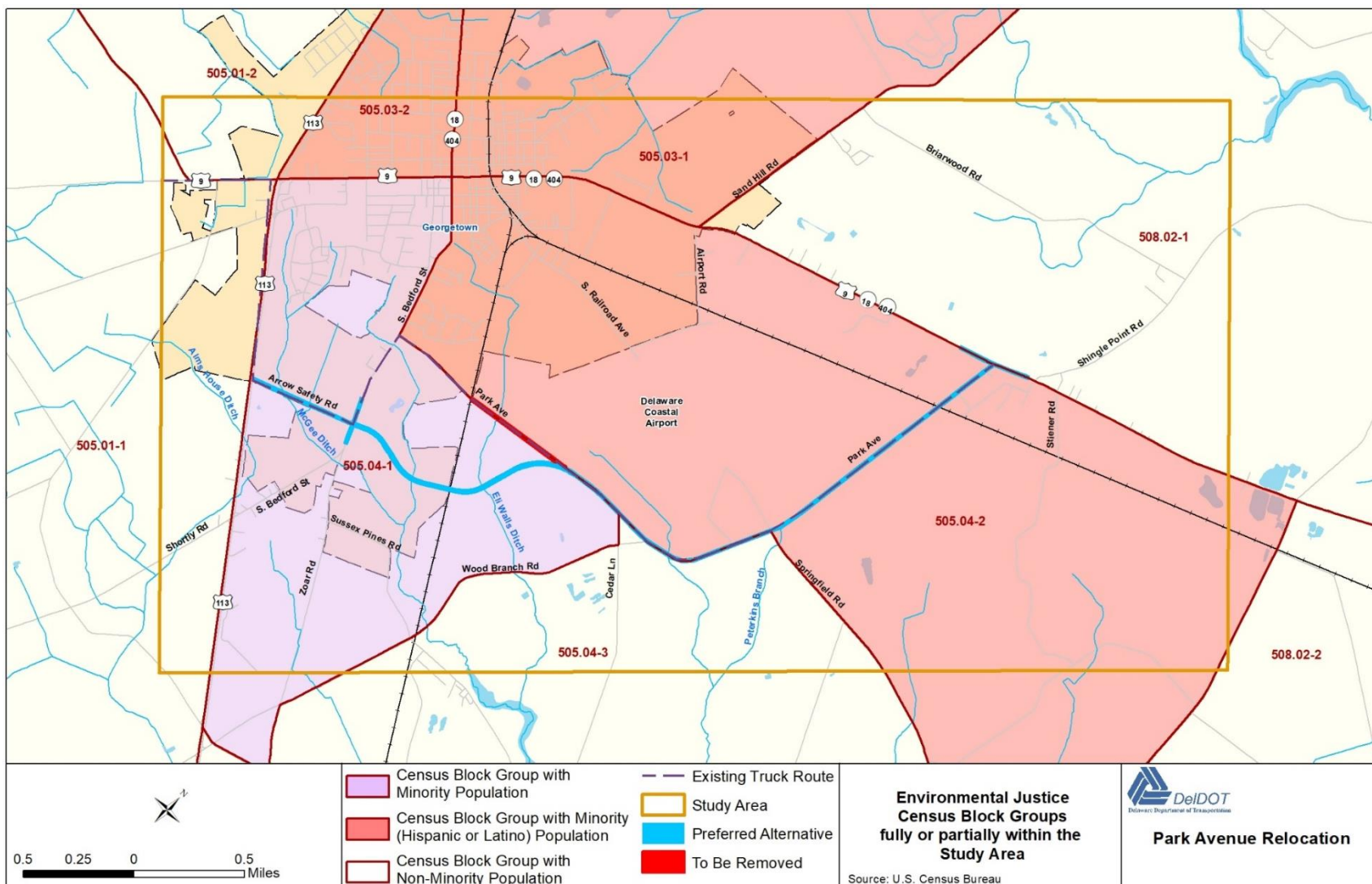
Source: 2011-2015 ACS 5-Year Estimates, Median Income in the Past 12 Months (in 2015 Inflation-Adjusted Dollars).

3.3 Future Conditions

3.3.1 No-Build Alternative

No direct effects on EJ communities have been identified for the No-Build Alternative. Increasing traffic and deterioration in local accessibility would equally affect minority and Hispanic/Latino populations and non-minority/Hispanic/Latino populations.

Figure 3-1: Environmental Justice Census Block Groups fully or partially within the Study Area



3.3.2 Preferred Alternative

According to FHWA Order 6640.23A, a disproportionately high and adverse effect on minority and low-income populations includes those which are “predominately borne by a minority population and / or a low-income population; or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population” (FHWA, 2012). These Environmental Justice regulations allow for meaningful participation among these populations in the project development process, and assure that the services and benefits of the proposed project are fairly distributed to avoid discrimination.

The Preferred Alternative would improve connectivity and safety through the area for both minority/Hispanic/Latino populations and non-minority/Hispanic/Latino populations. The impacts associated with the Preferred Alternative would not cause disproportionately high and adverse impacts to minority and/or Hispanic/Latino populations. Therefore, no mitigation measures are proposed.

4.0 Community Facilities

4.1 Methodology

Community facilities are structures and/or spaces that provide a variety of services for public benefit, including educational facilities, places of worship, emergency services facilities (police and fire stations), health care facilities, governmental facilities, post offices, airports, libraries, museums, historical places, cemeteries, and recreational centers. Community facilities were identified through a review of GIS data, parcel ownership information, and local comprehensive plans based on the study area limits as described in **Section 1.1**.

4.2 Existing Conditions

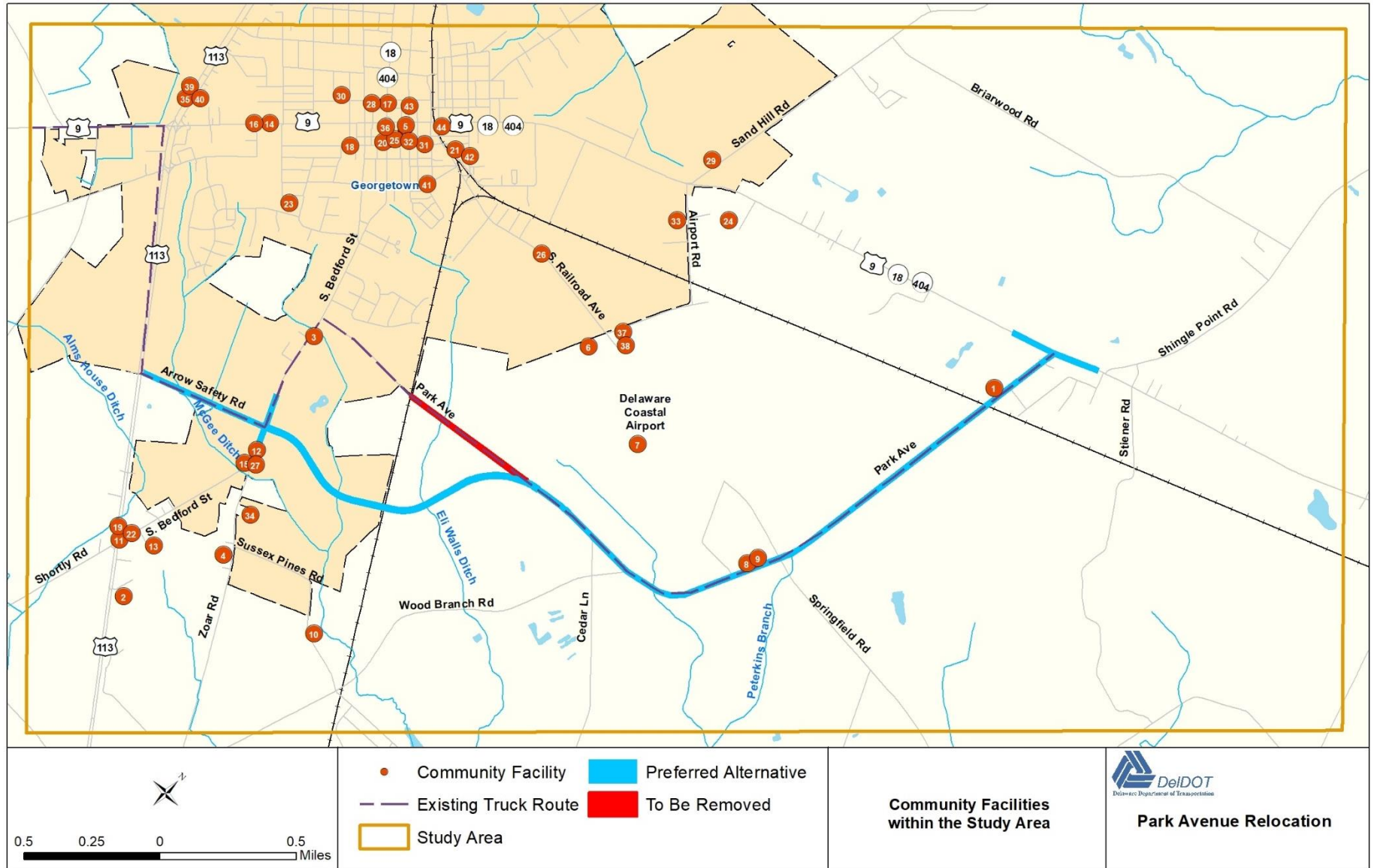
The majority of community facilities identified were located primarily to the north, within or immediately adjacent to the Town of Georgetown. **Table 4-1** lists the community facilities that have been identified within the study area and **Figure 4-1** displays these community facilities.

Table 4-1: Community Facilities within the Study Area

| Map ID | Community Facility | Facility Address | Facility Description |
|--------|-------------------------------------|-----------------------|----------------------|
| 1 | Anglican Parish of Saint James | 23269 Park Avenue | Church |
| 2 | Calvary Baptist Church | 22860 Dupont Blvd | Church |
| 3 | Catholic Charities | 406 S Bedford St | Church |
| 4 | Church of God Prophecy | 21950 Zoar Rd | Church |
| 5 | Court of Common Pleas | 1 The Cir #1 | Government |
| 6 | Delaware Aviation Museum Foundation | 21781 Aviation Ave | Museum |
| 7 | Delaware Coastal Airport | 21553 10N-1 | Airport |
| 8 | Delaware State Fire Marshall Office | 22705 Park Avenue | Fire Department |
| 9 | Delaware State Fire School | 22705 Park Avenue | Fire Department |
| 10 | Delmarva Christian High | 21777 Sussex Pines Rd | School |
| 11 | Georgetown Circle | 1 S Bedford St | Recreation |
| 12 | Georgetown Community Bible Church | 510 S Bedford St | Church |

| Map ID | Community Facility | Facility Address | Facility Description |
|--------|--|--------------------|----------------------|
| 13 | Georgetown Division of Motor Vehicles | 23737 Dupont Blvd | Government |
| 14 | Georgetown Elementary School | 301-A W Market St | School |
| 15 | Georgetown Historical Society | 510 S Bedford St | Historical Place |
| 16 | Georgetown Middle School | 301 W Market St | School |
| 17 | Georgetown Presbyterian Church | 203 N Bedford St | Church |
| 18 | Georgetown Public Library | 123 W Pine St | Library |
| 19 | Georgetown State Service Center | 546 S Bedford St | Government |
| 20 | Georgetown Volunteer Fire | 100 S Bedford St | Fire Department |
| 21 | Grace United Methodist | 7 S King St | Church |
| 22 | Health & Social Services Department | 546 S Bedford St | Government |
| 23 | Iglesia Abundante Vida | 207 Primary St | Church |
| 24 | Jesus is Lord Church of Deliverance | 40 Ingramtown Rd | Church |
| 25 | Law Library | 5 E Pine St | Library |
| 26 | Layton Park | 363 S Railroad Ave | Recreation |
| 27 | Marvel Carriage Museum | 510 S Bedford St | Museum |
| 28 | North Bedford Street Park | 203 N Bedford St | Recreation |
| 29 | River City Church | 20520 Sand Hill Rd | Church |
| 30 | St. Michael the Archangel | 202 Edward St | Church |
| 31 | St. Paul Episcopal | 122 E Pine St | Church |
| 32 | Superior Court | 1 The Cir #2 | Government |
| 33 | Sussex Academy of Arts and Sciences | 21150 Airport Road | School |
| 34 | Sussex Community Corrections | 23207 Dupont Blvd | Government |
| 35 | Sussex County Administrative Office West Complex | 22215 Dupont Blvd | Government |
| 36 | Sussex County Constable | 2 The Cir | Government |
| 37 | Sussex County Emergency | 21911 10N-1 | Government |
| 38 | Sussex County Fire & Ambulance | 21911 10N-1 | Government |
| 39 | Sussex County Library Administration | 22216 Dupont Blvd | Government |
| 40 | Sussex County Sherriff | 22215 Dupont Blvd | Government |
| 41 | Union Cemetery | 158 E Adams St | Cemetery |
| 42 | US Post Office | 115 S King St | Post Office |
| 43 | Wesley United Methodist Church | 102 E Laurel St | Church |
| 44 | Wilson Park | E Market St | Recreation |

Figure 4-1: Community Facilities within the Study Area



4.3 Future Conditions

4.3.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, this alternative would have no impacts on community facilities.

4.3.2 Preferred Alternative

The Preferred Alternative would not negatively impact any community facilities. The Preferred Alternative would improve traffic operations and provide a route around Georgetown. The improved intermodal connections and reduced congestion through the Town of Georgetown and along Park Avenue could enhance linkages between community facilities.

5.0 Land Use

5.1 Methodology

Existing land use was mapped using the Delaware Land Use, Land Cover 2012 dataset provided by Delaware's GIS *FirstMap Open Data*. Each locality's master transportation plan and/or master comprehensive plan were reviewed to identify any future land use plans for growth and development in the study area.

5.2 Existing Land Use

The study area is dominated by cropland/rangeland and wetland land use, consisting of a combined 48 percent (3,852 acres) of the study area total of approximately 8,007 acres, as shown in **Figure 5-1**. Single-family residential (12%) and airport (6%) land uses make up the majority of the remaining area. **Table 5-1** shows the acreage and percentage of each land use present within the study area.

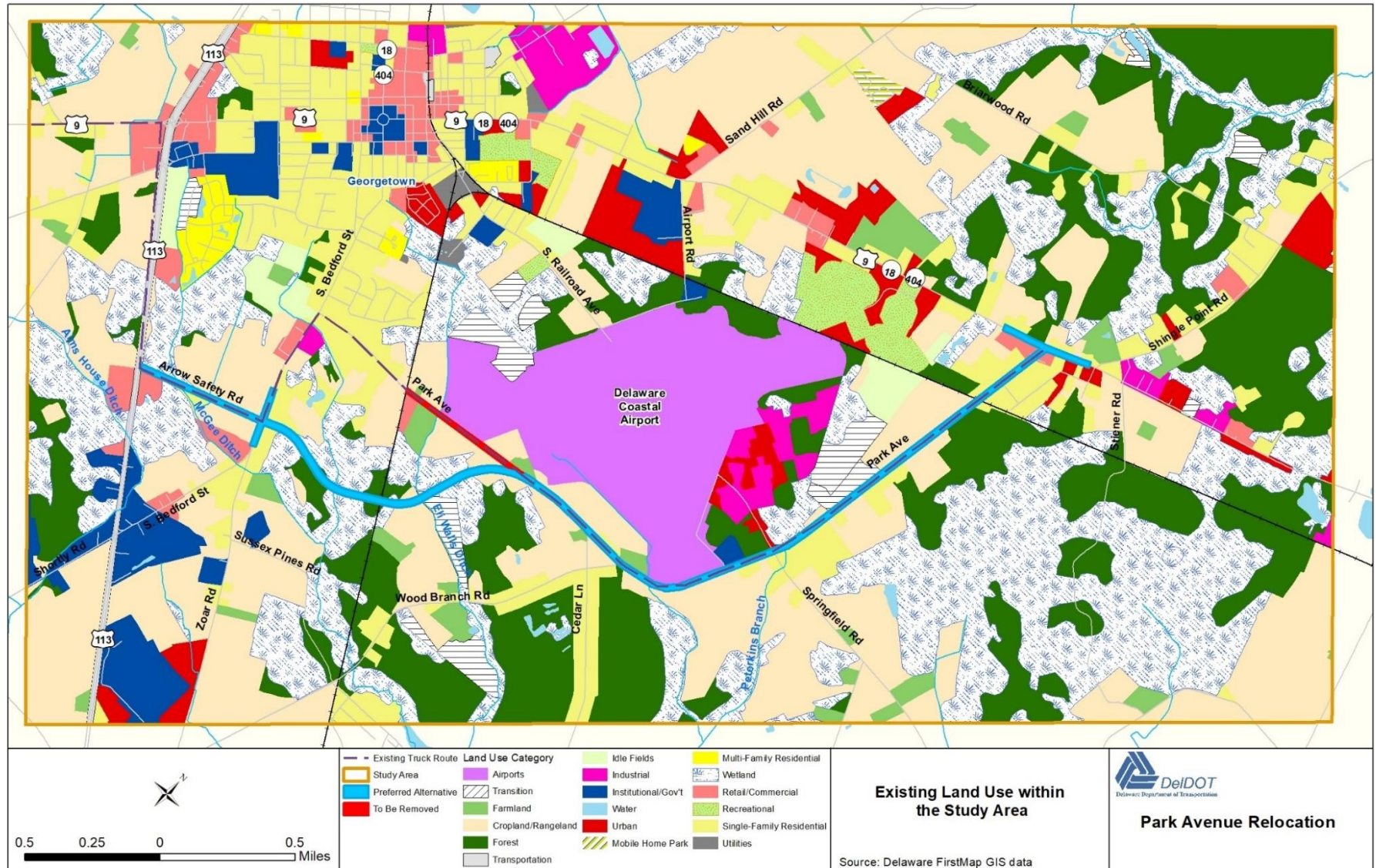
Table 5-1: Existing Land Use within the Study Area

| Land Use | Acres within Study Area | Percent of Study Area Covered |
|----------------------------|-------------------------|-------------------------------|
| Airport | 472 | 6% |
| Cropland/Rangeland | 2,115 | 26% |
| Farmland | 141 | 2% |
| Forest | 1,323 | 17% |
| Idle Fields | 76 | 1% |
| Industrial | 124 | 2% |
| Institutional/Governmental | 250 | 3% |
| Mobile Home Park | 9 | 0% |
| Multi-Family Residential | 61 | 1% |
| Recreational | 98 | 1% |
| Retail/Commercial | 204 | 3% |
| Single-Family Residential | 957 | 12% |
| Transition | 126 | 2% |
| Transportation | 50 | 1% |
| Urban | 229 | 3% |
| Utilities | 21 | 0% |
| Water | 16 | 0% |
| Wetland | 1,737 | 22% |
| Total | 8,007 | 100% |

Note: Where appropriate, some land use/land cover types have been combined to reflect similar types in total.

Source: Delaware's FirstMap Open Data, 2016a.

Figure 5-1: Existing Land Use within the Study Area



5.3 Future Land Use

Future land use within the study area will be primarily guided by the recommendations of the Sussex County and Town of Georgetown existing master plans and zoning ordinances. The roadways further south of Park Avenue and South Bedford Street, such as Wood Branch Road, support low density residential. The area north of the Town of Georgetown contains a large section of wetlands and forest, including a small section of State Forest. This area is also designated as a well head protection area. Residential mixed with commercial land use borders US 9 and US 113; while the majority of the vacant developable land between these roadways is designated for future residential development.

The study area south of Park Avenue and Arrow Safety Road is primarily characterized by forested areas and farmland. The study area north of Arrow Safety Road and the north east of Park Avenue consists primarily of commercial and residential areas incorporated by the Town of Georgetown, the area north of Arrow Safety Road is planned for residential development. The study area northeast of Park Avenue is characterized by forested areas, farmland, the Delaware Coastal Airport, and the Sussex County Industrial Park.

The Sussex County Comprehensive Plan's Future Land Use Plan identifies the study area as primarily Municipality in Georgetown and directly adjacent to Georgetown, planned Developing Area surrounding Georgetown, and Planned Industrial Area surrounding the Delaware Coastal Airport. Moving northeast on Lewes Georgetown Highway (US 9), the Plan also displays Highway Commercial Areas (Sussex County, 2008). The Town of Georgetown's Future Land Use Plan is consistent with Sussex County's Future Land Use Plan (Town of Georgetown, 2010).

5.4 Future Conditions

5.4.1 No-Build Alternative

Since the No-Build Alternative would include no improvements within the study area, no existing land use or plans for future development would be impacted by the No-Build Alternative.

5.4.2 Preferred Alternative

The Preferred Alternative would convert cropland and residential land use to transportation land use; however, the impact from the project is not expected to be adverse future land use. A substantial amount of the agricultural land in the study area is designated for future development and each locality has plans for development in the study area and around the Preferred Alternative.

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